Vol. 11(9), pp. 145-154, October-December 2019
DOI: 10.5897/JAT2019.0357
Article Number: 2A7249162056
ISSN 2141-6664
Copyright © 2019
Author(s) retain the copyright of this article
http://www.academicjournals.org/JAT

ACADEMIC JOURNALS
expand your knowledge

Journal of Accounting and Taxation

Full Length Research Paper

The role of board characteristics on the relationship between International Financial Reporting Standards (IFRS) adoption and earnings management: Evidence from China

Khaldoon Albitar[1], Ahmad Alqatan[1*] and Wei Huang[2]

[1]Department of Accounting and Financial Management, School of Business, University of Portsmouth, UK.
[2]Department of Accounting, School of Accounting, Zhongnan University of Economics and Law, Wuhan, China.

Received 21 August, 2019; Accepted 25 September, 2019

The purpose of this study is to investigate the effect of International Financial Reporting Standards (IFRS) adopting on earning management by considering the role of board size and board independence. Univariate tests and multivariate regression analysis were employed to test whether the level of earnings management is significantly lower after the adoption of IFRS and whether the role of board size and board independence on constraining the earnings managements is higher after IFRS adoption for a sample of Chinese listed companies during the period 2003 to 2013 except 2007 over a four-year period before and a six-year period after the adoption of IFRS. The empirical results show that earning management increased after the adoption of IFRS. However, there is no relationship between board size and earnings management before and after the adoption of IFRS but board independence has significantly decreased the earning management after the adoption of IFRS in China. The findings of this study have important implications for policymakers, auditors, multinational firms, and users of financial reports. As the rapid growth of China's economy gains global recognition, the Chinese stock market is capturing the attention of international investor.

Key words: Earning management, International Financial Reporting Standards (IFRS), board size, board independence.

INTRODUCTION

East Asia, Europe, and the US have experienced financial scandals that have decreased the confidence of investors in the integrity of accounting information. This loss in confidence has drawn attention to compliance issues with the International Financial Reporting Standards (IFRS) and corporate governance in developing countries and emerging markets. The International Accounting Standards Board (IASB) is devoted to developing a single set of high-quality global accounting standards which requires comparable and transparent information in the overall function of financial statements (www.iasb.org). As a result, it developed the

*Corresponding author. E-mail: rusq8@live.com.

IFRS to achieve the goals of enhancing the characteristics and the quality of financial reporting.

According to Verriest et al. (2013) and Pelucio-Greccoa et al. (2014), regulators argue that although firms adopt IFRS to improve the quality of accounting information, the IFRS also decreases earnings management. In February 2006, the Chinese Ministry of Finance issued new accounting standards that integrated the IFRS with few exceptions. The new standards required all the traded firms on the stock exchanges of Shenzhen and Shanghai to implement the new standards of accounting starting in January 2007. Further, the Code of Corporate Governance (CCG) for the listed firms was adopted in China in 2002.

Although China intended to adopt the IFRS to promote comparability with international accounting practices, whether such objectives are achievable is not clear. The incentives of Chinese listed firms to manage earnings are particularly strong, and the business environment may be a mismatch for the IFRS. Nevertheless, Chinese financial accounting has a powerful role. Numerous securities regulations are involved; in particular earnings targets which offer strong incentives to manage the earnings of Chinese listed firms. For instance, if a firm experiences accounting losses in three successive years, it will be delisted. Furthermore, before the firms can issue more shares, they need to meet certain profitability targets, like for the return on assets. Ball et al. (2003) highlight that it is important for a firm to report its incentives in order to shape the observed quality of financial reporting. Further, the earnings management due to these incentives are unlikely to change after IFRS adoption. Despite the IFRS inducing more earnings quality in countries with well aligned financial reporting incentives, opportunities to manage Chinese firms' earnings can be presented through more principle-based standards.

Also, China generally has weak external monitoring, regulatory enforcement, and investor protection. According to Hail et al. (2010), without the availability of corporate governance and strong investor protection, managers and insiders may misuse the increased judgement that is required by more principle-based accounting standards in order to achieve private control benefits. In addition, the flexibility of earnings management increases with the availability of strong incentives. Therefore, the Chinese accounting profession is still developing. Particularly, medium and small-sized firms experience enormous variation in skill levels and in the professional competence of corporate auditors and accountants.

Finally, the reliability of financial reporting would be reduced through the subjective assessment and internal valuation that are part of the implementation of a fair value measurement. The reasoning is that China does not have any valuation arising from "arms-length" transactions in any active market. Next to the US, China was globally ranked as the second largest in terms of the market value of publicly traded shares in 2007 as a result of the IFRS impact on Chinese earnings management. Leuz et al. (2010) indicate that China is the largest and fastest growing emerging market and has increasingly become important to global investors. This study aims to extend the research in the earnings management literature to an emerging country by examining the IFRS as a new regulatory framework in addition to discovering the functions of the board's size and independence on constraining earnings management. Precisely, this study seeks to discover the effects of the board's independence and size on earnings managements pre- and post-IFRS. This study is similar to Miko (2016) who examine the moderating institutional ownership role on the relation among some audit committee features and earnings management, and to Marra et al. (2011) who discover the moderating role of IFRS adoption on the relationship between earnings management and board monitoring.

The contribution of this study to the literature is that it evaluates whether the compulsory implementation of IFRS has reduced earnings management as well as whether board size and the board of directors have a greater impact on constraining earnings management after this implementation in China after 2007. It advances the comparative international accounting literature by studying whether the standards of intercontinental accounting indicate the acceptable benefits to the regulated markets which not speak English. The evidence shows that there is lower earnings management in general. Because the Chinese economy has a dissimilar institutional context from other regulated developing countries, this study is not only enlightening for accounting regulators but also for the international accounting standard setters which experience the same issues as in China.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

There are numerous studies on IFRS adoption and its effect on earnings management. This study extends and supplements the literature on the adoption of IFRS by examining the effects of the board's independence and size on earnings management before and after adoption in a regulated market under rapid change in a main developing country.

IFRS adoption

The literature finds that reporting quality is different among nations with different levels of investor protection. Even if the adoption of the IFRS reduces the differences, earnings management remains different across nations. Principally, the reasons are the divergences in culture, legal structure, and practices. These differences result from various levels of interpretation and compliance because of less comparability in financial statements. Past studies have proposed that the accounting quality is higher in strong enforcement nations as compared to weak one (Ali et al., 2017). Other studies (Peña and Franco, 2017) have stated diverse problems, such as the responses to IFRS adoption, impacts of adoption on the expense of fairness, value of accounting evidence, comparability or financial functions, impacts of pre- and post-IFRS adoption on the rate of adoption, integration and process of IFRS implementation, the cultural impact on the implementation process of IFRS. However, the anticipated benefits of IFRS adoption are far away because of the insufficient quality of financial reporting.

As countries have different regulatory, political or institutional settings, this dimension is potentially relevant for understanding variation in levels of disclosure compliance and drivers of compliance. A large number gather studies dealing with the adoption of and compliance with IFRS in China (Gao and Kling, 2012; Peng et al., 2008).

IFRS convergence in China has been driven by the Chinese government to facilitate its “Open Door” policy and by the rapid growth of the Chinese stock market. One of the most distinguishing features of IFRS implementation in China is the strong leadership provided by the Chinese Ministry of Finance (MOF) (Qu et al., 2012). China’s national standards have been substantially converged with IFRS, and China has committed to the adoption of IFRS for reporting by at least some domestic companies, although there is no timetable for the completion of the process. He et al. (2012) examine Chinese firms that adopt IFRS in 2007 and examine the effect of the fair value provisions under IFRS. They found that IFRS results in increased earnings manipulation among Chinese firms with large portfolios of trading securities and debt restructuring.

According to Defond et al. (2016), local firms from developing nations may experience problems with IFRS adoption; for instance, less opportunity to impact the international accounting standard process, cost of merging may be higher than the expected benefits, and the lack of representational faithfulness.

Earlier studies show mixed results regarding the relation between earnings management and IFRS adoption. For instance, Barth et al. (2012) show the superiority of the IFRS in limiting managerial discretion. On the other hand, some studies found that IFRS offers additional flexibility to managers to manipulate accounting numbers (Rudra and Bhattacharjee, 2012; Ahmed et al., 2013; JeanJean and Stolowy, 2008). Nevertheless, each country experiences different impacts from these standards.

For instance, Bajra and Cadez (2018) use a sample of European firms to examine how the central mechanism of governance affects earnings management. They use comprehensive methods of measurements to evaluate the qualities of the board of directors and the internal audit and found that the two mechanisms negatively affect the management of earnings but have a positive interactive effect. Nevertheless, Lam et al. (2019) point out that IFRS adoption increases earnings management, and the cumulative outcome is more noticeable in low trust countries. Similarly, DeFond et al. (2019) indicate that IFRS convergence leads to a favourable Chinese stock market, and this impact is more distinct in firms with a larger dependence on external capital.

Adoption of IFRS and earnings management

Previous studies by Bakker (2017) on the influence of IFRS adoption on earnings management have inconsistencies. Universally, the research by DeFond et al. (2014) found a positive impact of IFRS adoption on accounting quality. However, according to McEwen (2014), the IFRS is expected to advance the market infrastructure, minimise the cost of processing information, improve reporting quality as well as attract foreign investments. According to George et al. (2017), a IFRS statement discloses earnings management in terms of income smoothing and loss avoidance better than the local GAAP. Research by Ding et al. (2018) shows that the IFRS adoption assists in minimising the complexity and in developing the transparency of financial reporting in Hong Kong. However, research by Zealand and Zealandb (2015) demonstrates that cross-country variances in accounting quality will continue following IFRS adoption. The reason is because the accounting quality is a function of the firm’s general institutional structure that reflects the political and legal structures of the nation in which the firm resides.

Some studies have looked at IFRS adoption in the UK and have found that the introduction of the IFRS has improved the value of relevant accounting figures and decreased the level of earnings management (Iatridis and Rouvolis, 2010). By contrast, some studies indicate that after IFRS adoption in France, there has been a noted increase in the pervasiveness of earnings management. These different findings across countries show the significant role of national institutional factors in framing the characteristics of financial reporting (JeanJean and Stolowy, 2008). Moreover, Zhou et al. (2009) studied a sample of Chinese firms and observed how the adoption of IFRS affects earnings management. The difference between earlier Chinese standards and the IFRS is that the latter is principle-based while the former is rule-based. Additionally, the post-adoption earnings are less smooth, which is consistent with a reduction in earnings management. Zhou et al. (2009) point out that the improvements of IFRS adoption are, to some extent, neutralised by additional opportunities to manage earnings.

The results of studies which use a unique sample cannot be generalised to other countries (Barth et al., 2008). Subsequently, Barth et al. (2008) create a sample of 1,896 firm-year observations for 327 firms in 21 countries which adopted the IAS for the first time between 1994 and 2003. They research how the IAS adoption affects the level of earnings management. The results show that the IAS adoption decreases the level of earnings management (Barth et al., 2008). Accordingly, the research findings claim that the IFRS allows additional flexibility to managers. Some studies found that the IFRS is descriptive in nature and allows the choice between some substitute actions.

In the current literature, the findings for earnings management are mixed. The first hypothesis has been developed based on previous research as follows:

H1: The level of earnings management is lower after the adoption of IFRS in China.

The role of board characteristics on constraining earnings management

There are two reasons that motivate the board of directors to use their monitoring actions to decrease earnings managements. The first reason is to stop managers from using their power over earnings management against the interests of shareholders. The second reason is to prevent controlling shareholders from undermining resources for their benefit against the interests of minority shareholders. Accordingly, the board of directors can enforce effective constraints on earnings management.

In addition, previous studies indicate that managers could manipulate earnings to mislead shareholders which then become a possible agency cost. Furthermore, the board of directors can play a significant role in constraining earnings managements through effective monitoring that maintains the credibility of the financial reports. As well, some studies show evidence of the importance of the board's role in monitoring financial reporting and preventing the manipulation of accounting information.

The effectiveness of board governance is affected by the number of board members. Despite the fact that some studies have mixed results on the relation between board size and earnings management, numerous empirical studies confirm the existence of such a relation. Nevertheless, there are less empirical studies on the effect of board size on earnings management than those after IFRS adoption. Based on the organisation and agency behaviour theories, some researchers point out that having a big board of directors is not always the best option. Controlling and legalising strategic decisions as well as preventing the manipulation of financial information are indication of a protective board of directors. The board's objectivity on the firm helps them to monitor it but their excellent skills and expertise also help. Numerous studies including Verriest et al. (2013) and Xie et al. (2003) emphasise that the only way to minimise the risk for a firm is through involving more directors who will, in turn, bring more external resources, involvement as well as the knowledge on decreasing earnings management. Moreover, the interests of various stakeholders on the board can be easily organised by different representatives of stakeholders. Wang and Xiao (2011) is one of earlier Chinese studies to point out that board size and earnings management normally have a negative relation.

Following the previous discussion, this study assumes that board size will constrain earnings management after IFRS adoption.

H2: The role of board size on constraining earnings management is higher after IFRS adoption.

Based on the agency viewpoint of earnings management and board independence, the ability of the board to perform successful monitoring depends on its independence from management. Moreover, many empirical studies have shown independent directors' effect on earnings management through monitoring. Further, the existence of independent directors decreases the probability of fraud in a financial statement (Beasley, 1996). The control of earnings management in addition to the financial accounting can only be effective by having more boards which are independent from the CEO. Other studies specify that earnings management is not likely to occur in firms with boards that include more independent outside directors (Xie et al., 2003). Nevertheless, studies claim that independent directors of listed firms in China play a significant role because of a higher percentage on the board lowers earnings management (Zhang and Chen, 2006). On the other hand, Cai et al. (2008) illustrate that earnings management has no substantial relationship with independent directors. Using 2002 to 2004 data obtained from listed firms, Wang (2006) observes the relationship between earnings quality and independent directors. The result of the study is that there is no significant role of independent directors in China. According to Cumming et al. (2016), financial reporting problems include high levels of technical information and therefore, a great magnitude of earnings management. According to the study by Xiong and Ganguli (2014), the restriction on earnings management involves the independent directors. However, Osma (2017) argues that independent directors as members of the audit committee minimise earnings management by wisely monitoring supervisory decision-making. Therefore, self-governing directors have incentives to earnings management.

H3: The role of independent directors on constraining earnings management is greater after IFRS adoption.

Table 1. Descriptive statistics.

Variable	Mean	Min	Max	Sd	N
ABAC	0.140	0	0.740	0.130	7394
LEVERAGE	0.600	0.060	2.630	0.370	22713
SIZE	21.14	9.07	41.10	1.350	22724
ROA	0.070	-0.230	0.530	0.110	22714
GROWTH	3.730	-6.300	28.84	4.120	19078
IFRS	0.600	0	1	0.490	26360
Bsize	10	5	20	2.300	18204
BInd	4	1	10	0.870	18204
Big4	0.040	0	1	0.190	28996

METHODOLOGY

Data collection

This research uses Chinese listed firms from the Shenzhen and Shanghai stock exchanges. The data comes from the China Centre for Economics Research (CCER) database and from the Accounting Research Database (CSMAR) which was created by the GTA Information Technology Company. The observation period ranges from 2003 to 2013 but excludes 2007. The reason for omitting 2007 is that this was the first year in which the IFRS was adopted and it could be biased and not reflects the real situation. The observation period was divided into two subperiods. The first is the pre-IFRS period of 2003 to 2006. The second group is the post-IFRS of 2008 to 2013. The research does not include financial firms because of the differences in accounting measurements between these firms and those of other industries. Since the empirical analyses require particular test variables to enable the calculation, the sample only includes those firms with valid data.

Measurement and empirical model

This research develops various models to segregate the total accruals into two groups: nondiscretionary and discretionary. The Jones (1991) model is used to calculate the absolute value of the abnormal accruals. Dechow et al. (1995) modifies the Jones model to measure the level of earnings management with a regression. The firms' PPE and net value revenue are the ones that this model uses to estimate the normal accruals in the same industry. The amount of accruals below or above the standard accruals represents the firms' abnormal accruals that this regression generates as residuals. The degree to which the normal accruals depart from the total accruals represents the level of earnings management which is measured as the absolute value of the residual. The low earnings quality is indicated by the high absolute value of the abnormal accruals.

$$[TACC]\_{it} = [\,[a(1\,[/ASSETS]\_{(it-1)}) + b(\,[\,[\Delta REV]\_{it} - \Delta REC]\_{it}) + cPPE]\_{it} + \varepsilon]\_{(i,t)}$$

TACC represents the total accruals for firm (i) in year (t); ASSETSit_1 represents the total assets for firm (i) in period t_1; ∆REVit includes the revenues in period t minus the revenues in period t_1; ∆RECit includes the period t receivables minus the period t_1 receivables for firm I; PPEit represents the gross property, plant, and equipment of firm i in period t; and Eit is the firm's error term i in period t.

An OLS estimation evaluates whether the extent of earnings management is lower after IFRS adoption:

$$ABAC\_{it} = [\beta 1\, IFRS + \beta 2\, Bsize + \beta 3\, BInd + \beta 4\, LEVERAGE + \beta 5\, SIZE + \beta 6\, ROA + \beta 7\, GROWTH + \beta 8\, Big4 + \varepsilon]\_{(i,t)}$$

ABAC represents the absolute value of the abnormal accruals, while SIZE signifies the natural logarithm total assets. ROA signifies the return on assets ratio (control variable). LEVERAGE represents the total debt divided by total assets (control variable). GROWTH signifies the share price divided by the book value per share (control variable). The IFRS represents a dummy variable that equals one if the financial statement is prepared under IFRS, and zero otherwise. The total number of board members is represented by Bsize, while BInd signifies board independence and equals the ratio of the number of directors on the board to the number of outside directors.

RESULTS AND DISCUSSION

Descriptive statistics

Table 1 summarises the descriptive statistics for the whole sample. The mean of the absolute values of the abnormal accruals is 0.140, while the minimum and maximum values of ABAC are 0.740 and 0. The mean size of the firms is 21.14. The mean for leverage is 0.600 with a maximum value of 2.630. Big 4 audit firms handle only 4% of the sample firms, which is unlike the audit market in the more developed capital markets. Most of the constant control variables have an approximately symmetric distribution.

Univariate analysis

The matrix of Pearson correlations is shown in Table 2. This matrix provides the correlations among the coefficients for the variables in the regression model. The

Table 2. Correlation person matrix.

Correlation	ABAC	LEVERAGE	SIZE	ROA	GROWTH	IFRS	Bsize	BInd	Big4
ABAC	1								
LEVERAGE	0.282***	1							
SIZE	-0.089***	0.050***	1						
ROA	0.030***	0.034***	-0.318***	1					
GROWTH	0.023**	-0.004	-0.205***	0.110***	1				
IFRS	-0.020*	-0.058***	0.086***	0.175***	0.139***	1			
Bsize	-0.026*	-0.123***	0.012*	0.396***	0.190***	0.331***	1		
Bind	-0.031***	-0.006	-0.023***	0.736***	0.037***	0.191***	0.559***	1	
Big4	-0.007	0.012*	0.301***	-0.01	-0.043***	0.005	-0.002	0.036***	1

Table 3. VIF Collinearity test.

Variable	TF	VIF
ABAC	0.448	1.612
LEVERAGE	0.767	1.257
SIZE	0.706	1.295
ROA	0.757	1.435
GROWTH	0.644	1.368
IFRS	0.779	1.355
Bsize	0.633	1.368
BInd	0.449	1.747
Big4	0.751	1.262
ABAC	0.382	1.367
LEVERAGE	0.454	1.369
SIZE	0.658	1.855

The sample is based on data from 2003 to 2013 but excludes 2007.

independent variables of the model correlate with the absolute value of the abnormal accruals. Consequently, the IFRS users and the absolute value of the abnormal accruals have a significantly negative association. As such, this association indicates that the firms which use the IFRS have a lower absolute value of abnormal accruals that result in high quality accruals. Consequently, there is a significantly negative correlation between the absolute value of the abnormal accruals and the period of post-IFRS. According to Ohlson (1995) and Dechow et al. (1995), higher quality accruals are related to a lower absolute value for the abnormal accruals. Another indication is that the firms that have adopted IFRS have a highly significant association if they are larger. Moreover, a positive correlation exists between the larger size and the IFRS in terms of firms that use it. Moreover, this correlation exists for a lower debt level, lower return on assets ratio and lower growth. Field (2009) confirms that “correlation coefficients measure the strength of association or relationship between two variables”. The strength of the correlation is between plus and minus one. The matrix of Pearson correlations can be used to not only detect multicollinearity between variables but also to detect the strength of the relations between variables. This study tests for multicollinearity by finding the values of the variance inflation factors for the independent variables as indicated in Table 3. The occurrence of multicollinearity in a given model is not only the factor of a tolerance nearer to zero but also VIF values larger than 10. The results indicate that multicollinearity is not a concern in the regression in the model.

Multivariate analysis

According to Dechow et al. (1995), the absolute values of the abnormal accruals are used to estimate the model with the results that are shown in Table 4. Based on the study’s hypothesis, lower earnings management should exist after the IFRS is adopted in China. However, there is a significant rise in earnings management as indicated in Table 4 (p-value 0.0650) which contradicts the hypothesis. According to Van Tendeloo and Vanstraelen (2005), this result could be because of numerous issues

Table 4. OLS models.

Variable	2003-2006			2008-2013			Full Model		
	Coefficients	t	P	Coefficients	t	p	Coefficients	t	p
IFRS	-	-	-	-	-	-	0.007*	(1.85)	0.065
SIZE	-0.005	(-1.39)	0.166	-0.020***	(-12.14)	0.000	-0.017***	(-11.90)	0.000
ROA	-0.000	(-0.01)	0.994	0.054**	(2.16)	0.031	0.051**	(2.45)	0.014
GROWTH	-0.001	(-0.46)	0.391	0.000	(0.06)	0.950	-0.000	(-0.03)	0.978
LEVERAGE	0.112***	(12.14)	0.000	0.135***	(23.39)	0.000	0.126***	(25.94)	0.000
Bsize	-0.000	(-0.86)	0.381	0.000	(0.34)	0.510	0.000	(0.64)	0.370
BInd	-0.000	(-0.36)	0.421	-0.028***	(8.46)	0.000	-0.048**	(8.53)	0.006
Big4	0.014	(1.24)	0.217	0.014**	(1.98)	0.048	0.015***	(2.61)	0.009
Constant	0.182**	(2.22)	0.027	0.462***	(9.67)	0.000	0.431***	(11.99)	0.000
Industry	Controlled	-	-	Controlled	-	-	Controlled	-	-
Observations	1,794	-	-	4,670	-	-	6,464	-	-
Adjusted R-squared	0.098	-	-	0.143	-	-	0.128	-	-
F	8.756	-	-	32.21	-	-	37.34	-	-

T-statistics in parentheses ***p<0.01, **p<0.05, *p<0.1.

which limit the success of adopting the IFRS. And the major worry involves the greater utilisation of fair value accounting when adopting the IFRS. They argue that there is liquidity in capital markets as in the emerging markets that allows managers to greatly affect the quoted prices (Van Tendeloo and Vanstraelen, 2005). Hypothesis one is rejected because managers have a high probability of influencing the estimation through their choice of preferred parameters and models as well as estimating fair values through models of valuation which lead to noisy results. Therefore, as the results of this study show, earnings management was not controlled through the firms who adopted the IFRS. In general, these results align with several studies including Hail et al. (2010) and Van Tendeloo and Vanstraelen (2005) and who argue that those countries without appropriate institutional infrastructures and suitable capital market paradigms do not effectively implement IFRS enough to support reporting rules. Yuanhui et al. (2014) argue that firms that follow cost leadership strategy are more likely to have a higher level of real earnings management. These results have been criticized by Kim et al. (2013) for two reasons. First, the differentiation between companies adopting IFRS in full of partial adopters is not easy. Second, there is a general tendency to improve the quality of reports which makes impossible to exclude the possibility that companies applying local standards, improve the quality of their reports. Table 4 illustrates the results from using the board’s independence and size. It shows that the coefficient for Bsize is not significant. Consequently, the earnings management does not have a significant association with this factor, and there is no differential effect between pre- and post-IFRS. The reason is that as the board size does not have a strong effect on controlling managers in China. On the other hand, after the IFRS adoption, the coefficient is significant and positive for role of actors on managers.

Separate models are used for pre-and post-IFRS. The aim is to know whether each period had a significantly different coefficient for the test variables of Bind and Bsize. The results on these variables are consistent with earlier studies regarding earnings management, and they indicate that the adjusted R-square values of both models are 9.8% for the pre-IFRS model and 14.3% for the post-IFRS regression. There is no significant coefficient for BInd in the pre-IFRS model which shows that the earnings management prior to the IFRS adoption was not affected by high numbers of independent directors. However, a larger coefficient is observed in the post-IFRS period. Using a t-test, the two coefficients statistically differ at the 1% level. The third hypothesis of this study is validated through these results in which after IFRS adoption, independent directors could efficiently constrain earnings management. In general, the third hypothesis is supported through the results in Table 4 as the results show that after IFRS adoption, the earnings management can be effectively decreased through board independence; the same results do not prove the second hypothesis which theorises that the earnings management would be affected by the board size after IFRS adoption.

Test of robustness

This study applies a robustness test to see whether the earlier studies are robust. Using the model of Kasznik (1999), the results in Table 5 for the absolute value of the abnormal accrual estimation are checked for robustness. The following model comes from Kasznik (1999).

Table 5. OLS model using interaction variables.

Variable	Coefficient	t	p
IFRS	0.008*	(1.92)	0.041
SIZE	-0.016***	(-10.68)	0.000
ROA	0.037*	(1.76)	0.078
GROWTH	0.000	(0.40)	0.691
LEVERAGE	0.124***	(25.12)	0.000
Big4	0.017***	(2.80)	0.005
Bsize	0.000	(0.64)	0.370
BInd	-0.048**	(8.53)	0.006
IFRS*Bsize	0.000	(0.42)	0.730
IFRS*BInd	-0.016*	(2.67)	0.016
Constant	0.391***	(10.75)	0.000
Industry	Controlled	-	-
Observations	6,464	-	-
Adjusted R-squared	0.126	-	-
F	34.49	-	-

T-statistics in parentheses; ***p<0.01, **p<0.05, *p<0.1.

$$TACC_{it} = a(1/ASSETS_{(it-1)}) + b(\Delta REV_{it} - \Delta REC_{it}) + cPPE_{it} + d\Delta CFO_{it} + \varepsilon_{(i,t)}$$

The results from the robustness test are in accordance with the regression model that was previously performed. Thus, the results remain the same.

Further, two additional regression models are used on the entire sample (pre- and post-IFRS) by using interaction variables to validate the results. The models are defined as follows:

$$ABAC_{it} = \beta 1\, IFRS + \beta 2\, Bsize + \beta 3\, BInd + \beta 4\, LEVERAGE + \beta 5\, SIZE + \beta 6\, ROA + \beta 7\, GROWTH + \beta 8\, Big4 + \beta 9\, IFRS * Bsize + \beta 10\, IFRS * BInd + \varepsilon_{(i,t)}$$

As shown in Table 5, β10 is statistically significant and negative in the regression. The interaction terms capture the impact of board independence on the discretionary accruals for the post-IFRS period relative to the pre-IFRS introduction period. Thus, the results show that BInd becomes more influential in affecting discretionary accruals for the post-IFRS years, which means that increasing the number of independent directors decreases the absolute value of the discretionary accruals.

Conclusion

This research has evaluated the effects of IFRS adoption on earnings management by considering the role of board size and board independence for a sample of listed firms in China from 2003 to 2013. The sample generates a total of 6,464 observations for a four-year period before IFRS adoption and for a six-year period after the adoption. This study tests whether the level of earnings management is significantly lower after the adoption of the IFRS and explores the roles of the board's size and independence on earning management in the two periods. The empirical results indicate that IFRS adoption increased the earnings management in China and there was no association between earnings management and board size before and after the adoption of the IFRS, however, increasing the number of independent directors decreases earnings management after IFRS adoption. The study concludes that just focusing on accounting standards alone is misleading and incomplete. It contributes to the literature by providing evidence on the effect of IFRS on earning management in developing economies. Currently, several developing economies and countries have either adopted the IFRS or have mostly converged with it, but the literature provides little evidence on its impact in a developing economy. This study adds to the literature that financial reporting quality is shaped not only by financial reporting standards, but also reporting incentives, corporate governance and institutional factors. Listed firms in China do not respond to reporting incentives due to the lack of effective governance systems, and therefore cannot monitor or provide strong investor protection by adopting superior quality accounting standards. Furthermore, the IFRS offers greater flexibility that creates additional opportunities for managing earnings in the Chinese firms. The evidence provided by this study might be quite interesting to investors and regulators since China has become significant in the global economy. Still, the evidence is also important not only for emerging countries with similar institutional characteristics and capital markets but also to local standard setters. This study recommends additional future research to be carried out in other environments in order to reveal the effect of adopting IFRS more completely. Moreover, future studies can similarly consider other attributes of accounting quality such as timeliness, persistence, comparability, predictability and earnings conservatism while examining the role of board characteristics.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

REFERENCES

Ahmed AS, Neel M, Wang D (2013). Does mandatory adoption of IFRS improve accounting quality? Preliminary evidence. Contemporary Accounting Research 30(4):1344-1372.

Ali A, Akbar S, Ormrod P, Shah SZ (2017). Impact of IFRS on the quality of financial information in the United Kingdom and France. Australian Accounting Review 2017:360-375.

Bajra U, Cadez S (2018). The impact of corporate governance quality on earnings management: Evidence from European companies cross-listed in the US. Australian Accounting Review 28(2):152-166.

Bakker E (2017). Interpretation and application of IFRS standards. Hoboken, NJ: Wiley.

Ball R, Robin A, Wu JS (2003). Incentives versus standards: properties of accounting income in four East Asian countries. Journal of Accounting and Economics 36(1-3):235-270.

Barth M, Landsman W, Lang M, Williams C (2012). Are IFRS-based and US GAAP based accounting amounts comparable? Journal of Accounting and Economics 54(1):68-93.

Barth ME, Landsman WR, Lang MH (2008). International accounting standards and accounting quality. Journal of Accounting Research 46(3):467-498.

Beasley MS (1996). An empirical analysis of the relation between the board of director composition and financial statement fraud. The Accounting Review 71(4):443-465.

Cai L, Rahman A, Courtenay S (2008). The effect of IFRS and its enforcement on earnings management: An international comparison. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1473571

Cumming D, Hou W, Lee E (2016). Business ethics and finance in greater China: Synthesis and future directions in sustainability, CSR, and fraud. Journal of Business Ethics 138(4):601-626.

Dechow PM, Sloan RG, Sweeney AP (1995). Detecting earnings management. The Accounting Review 70(2):193-225.

DeFond M L, Gao X, Li OZ, Xia L (2014). Did China's Adoption of IFRS Attract More Foreign Institutional Investment? Hershey, PA: Business Science Reference.

DeFond M, Gao X, Li OZ, Xia L (2016). IFRS adoption in China and foreign institutional. China Journal of Accounting Research 12:1-32.

DeFond M, Gao X, Li OZ, Xia L (2019). IFRS adoption in China and foreign institutional investments. China Journal of Accounting Research 12(1):1-32.

Ding S, Jia C, Wu Z, Adi AA, Rossi JA (2018). Foreign Direct Investment in China. Journal of Business Ethics 2018:765-785.

Field A (2009). Discovering statistics using SPSS. 2nd ed. London: Sage Publication.

Gao L, Kling G (2012). The impact of corporate governance and external audit on compliance to mandatory disclosure requirements in China. Journal of International Accounting, Auditing and Taxation 21(1):17-31.

George ET, Li X, Shivakumar L (2017). A review of the IFRS adoption literature. Review of Accounting Studies 21(3):898-1004.

Hail L, Leuz C, Wysocki P (2010). Global Accounting Convergence and the Potential Adoption of IFRS by the U.S. (Part II): Political Factors and Future Scenarios for U.S. Accounting Standards. Accounting Horizons 24(4):567-588.

Iatridis G, Rouvolis S (2010). The post-adoption effects of the implementation of International Financial Reporting Standards in Greece. Journal of International Accounting, Auditing and Taxation 19(1):55-65.

Jeanjean T, Stolowy H (2008). Do accounting standards matter? An exploratory analysis of earnings management before and after IFRS adoption. Journal of Accounting and Public Policy 27(6):480-494.

Jones JJ (1991). Earnings management during import relief investigations. Journal of Accounting Research 29(2):193-228.

Kasznik R (1999). On the association between voluntary disclosure and earnings management. Journal of Accounting Research 37(1):57-81.

Kim J, Shi H, Zhou J (2013). International Financial Reporting Standards, institutional infrastructures, and implied cost of equity capital around the world. Quantitative Finance and Accounting 42(3):469-507.

Lam KC, Sami H, Yao J, Yao Y (2019). Mandatory IFRS Adoption and Earnings Management: The Role of Culture.

Leuz C, Lin KV, Warnock FE (2010). Do Foreigners Invest Less in Poorly Governed Firms? The Review of Financial Studies 22(8):3245-3285.

Marra A, Mazzola P, Prencipe A (2011). Board monitoring and earnings management pre- and post-IFRS. The International Journal of Accounting 46(2):205-230.

McEwen RA (2014). Transparency in financial reporting : a concise comparison of IFRS and US GAAP. Petersfield: Harriman House.

Miko NU (2016). The Effect of Corporate Governance Mechanisms and Firm Characteristics on Earnings Management Practice among Nigerian Companies. (Doctoral thesis) School of Accountancy. Universiti Utara Malaysia.

Ohlson JA (1995). Earnings, book values, and dividends in equity valuation. Contemporary Accounting Research 11(2):661-687.

Osma B G (2017). TheRole of Independent Directors on Earnings Management: Evidence from Individual Incentives. Spain;Calle Madrid: Universidad Carlos III de Madrid.

Pelucio-Grecco MC, Geron CMS, Grecco GB, Lima JPC (2014). The effect of IFRS on earnings management in Brazilian non-financial public companies. Emerging Markets Review 21:42-66.

Peña HF, Franco JB (2017). Impact of IFRS on the quality of financial information in the United Kingdom and France. Intangible Capital pp. 850-878.

Peng S, Tondkar RH, van der Laan Smith J, Harless DW (2008). Does convergence of accounting standards lead to the convergence of accounting practices? A study from China. The International Journal of Accounting 43(4):448-468.

Qu W, Fong M, Oliver J (2012). Does IFRS convergence improve quality of accounting information?-Evidence from the Chinese stock market. Corporate Ownership and Control 9(4):187-196.

Rudra T, Bhattacharjee D (2012). Does IFRS influence earnings management? Evidence from India. Journal of Management Research 4(1):1-13.

Van Tendeloo B, Vanstraelen A (2005). Earnings management under German GAAP versus IFRS. European Accounting Review 14(1):155-180.

Verriest A, Gaeremynck A, Thornton DB (2013). The impact of corporate governance on IFRS adoption choices. European Accounting Review 22(1):39-77.

Wang K, Xiao X (2011). Controlling shareholders' tunneling and executive compensation: evidence from China. Journal of Accounting and Public Policy 30(1):89-100.

Wang D (2006). Founding family ownership and earnings quality. Journal of Accounting Research 44(3):619-656.

Xie B, DaDalt PJ, Davidson W (2003). Earnings management and corporate governance: Theories of the board and the audit committee. Journal of Corporate Finance 9:295-316.

Xiong Y, Ganguli G (2014). Does the adoption of international financial reporting standards restrain earnings management? evidence from an emerging market. Academy of Accounting and Financial Studies Journal 13:43-56.

Yuanhui Li, Ferguson JP, Wu P, Gao L, Gu T (2015). Business strategy, market competition and earnings management. Chinese Management Studies 9(3):401-424.

Zealand KN, Zealand IO (2015). Adoption of IFRS and preparing accounts for SMEs. Wellington, N.Z: Institute of Chartered Accountants of New Zealand.

Zhang Z, Chen Q (2006). Experimental measurements and numerical simulations of particle transport and distribution in ventilated rooms. Atmospheric Environment 40(18):3396-3408.

Zhou H, Xiong Y, Ganguli G (2009). Does the adoption of international financial reporting standards restrain earnings management? Evidence from an emerging market. Academy of Accounting and Financial Studies Journal 13:43.